

REMARKS

Claims 1, 2, 11, and 15 have been amended. Claims 1-18 remain in the application. No new matter has been added. Reconsideration of the application, as amended, is respectfully requested.

In the following text, specific references to the present application and the prior art are made using the notation "x:y", where "x" denotes the page or column number, and "y" indicates the line number, within the document being discussed.

Currently, claims 1-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable for obviousness over U.S. Patent Number 5,901,202 ("Lam") in view of U.S. Patent Number 5,825,849 ("Garland"). The applicant respectfully traverses. The applicant believes that the combination of Lam with Garland fails to teach the slave test unit and method cited in the claims of the present application. More specifically, no combination of Lam and Garland teaches the ability of a slave test unit to execute test commands that include "the ability to generate test signals on any of the separate phone lines." (Claim 1)

Regarding claim 1, the examiner states in the latest Office Action that "[i]n summation, Garland teaches the master (40 figure 1) may command any one of the loop-back devices (46a-46g) to generate test signals on any of the separate lines (entire disclosure)." (Office Action of 9/5/02) However, each of these "separate phone lines" in Garland is attached to a single, separate loop-back device 46. For example, in looking at FIG. 1, loop-back device 46a is attached to a single local line 11 (4:17). Likewise, the (master) test unit 40 is attached to a dedicated or dial up line 42 (4:41 – 4:43). Therefore, since each device disclosed in Garland is only connected to a single phone line, each can only generate data over a single phone line. To send data over multiple phone lines, multiple devices are required in Garland. The present invention is not limited in such a way.

Apparently, the examiner, in referring to separate phone lines, includes those lines not directly connected to the test unit 40, such as the local lines 11. The present application does not use the term "separate phone lines" in this manner. Instead, the "separate phone lines" referred to in the present application are the separate phone lines *that are attached at the slave test unit*. In looking at FIG. 1 of the present application, phone jacks 150 and 155 each connect to a separate phone line. These jacks are represented as the "at least two phone line connections attached to separate phone lines" in claim 1, line 3. These separate phone lines

are then referenced later in claim 1 with respect to the generation of the test signals “on any of the separate phone lines.” This is one of the reasons for having two phone line connectors on the slave test unit.

As a result, since neither Lam nor Garland disclose an ability to generate test signals over any of the separate phone lines connected at a test unit, the applicant believes that claim 1, as amended, is allowable.

With respect to claim 11, the examiner has made the same argument regarding patentability. As a result, the applicant has amended claim 11 to indicate that test signals can be generated over more than one phone connection. Therefore, the applicant believes that claim 11, as amended, is allowable in view of the above discussion regarding claim 1.

Additionally, since claims 2-10 are dependent upon claim 1, and claims 12-18 are dependent upon claim 11, the applicant believes that these claims are allowable as well, as they all incorporate the feature that the slave test unit has the capability of generating test signals over more than one phone line connected to the slave test unit.

More specifically regarding claim 2, the slave test unit of Lam, the Voice Response Unit (VRU) 180, does not in fact have the ability to encode test commands which are “sent via the phone line connectors to the at least one remote test unit,” as stated in claim 2. The slave unit of Lam has the ability to *decode* and *execute* some commands (go on-hook, go off-hook, etc.), but does not have the ability to *encode* any commands to be sent to another remote test unit, such as a master or another slave unit, for execution by that remote test unit. Also, Garland does not teach a slave unit encoding test commands. Only the (master) test unit encodes commands; the loop-back devices 46 of Garland are not disclosed as having this capability. Garland indicates that the loop-back devices 46 can encode or otherwise configure the *message*, but this message is *not a command* to be executed by the test unit 40 receiving that message. Thus, as neither Lam nor Garland discloses the subject matter of claim 2, the applicant believes the claim is allowable.

Regarding claims 3 and 12, Lam does not teach a dialback command being executed by the VRU 180, acting as a slave test unit. In that disclosure, Lam indicates that the VRU goes “off-hook” on the remote line 190 (3:30 – 3:35). Once this has been accomplished, the dialing referred to by the examiner is performed by the human operator or the master processor 110 (3:53 – 3:62). Thus, the VRU 180 does not perform the dialing, so it is *not*

executing a dialback command. No such feature is even mentioned in the Garland reference. Thus, the applicant feels that claims 3 and 12 are allowable.

Concerning claims 4 and 13, although the loop-back devices 46 perform a loop-back function regarding return of data, this function is not the same as the standard loop-back test performed by embodiments of the present invention. Garland's loop-back function is a return of a data message, possibly modified or reconfigured in some fashion (5:50 – 5:60). Thus, the function of the loop-back function in Garland is not to return a test signal intact to test signal quality. However, with respect to the present invention, the specification states that “[t]est units with loopback capability can return an incoming voice test signal without significant modification of the signal so that the initiating test unit can check for changes in the signal as a result of the round-trip transmission of the signal.” (4:17 – 4:20) Thus, the point of the loopback function in the present invention is to prevent modification of the signal when returning the signal back to its source. This definition is the one normally used in the telephone testing industry, and the one used in the present application. Garland does not refer to this particular functionality. Lam does not mention a loopback capability. As a result, the applicant believes that claims 4 and 13 are allowable in view of Garland and Lam.

Regarding claims 5 and 14, Lam does not teach using a quiet termination command. Unlike the off-hook command, as pointed to by the examiner in Lam, the quiet termination command does not cause the slave test unit of the present application to become disconnected from the communication line being tested. Rather, quiet termination is described in the present application as “the ability to generate no outgoing signals” while still remaining connected (4:20 – 4:24). In other words, a slave test unit in quiet termination mode will not echo back signals received on the communication line being tested, thereby eliminating a potential signal source.

Likewise, Garland does not teach a quiet termination capability. The examiner has referenced Garland's title, which refers to a “suppressed ringing connection.” However, the two concepts are not at all related. According to Garland, “[s]uppressed ringing connections are established over standard voice trunks connecting the central office and a central office service unit (COSU) so that the number of local loops that can be tested simultaneously depends on the number of standard trunks linking the COSU to the switch(es).” (3:10 – 3:15). Thus, it can be seen that a suppressed ringing connection has nothing to do with a quiet

termination capability, as described above. As a result, the applicant believes that claims 5 and 14 are allowable.

More specifically regarding claims 6 and 16, Lam discloses a human operator interface in relation to a master processor 110, which appears to serve as a master test unit (2:36 – 2:58). However, claims 6 and 16 include the limitations of claims 1 and 11, respectively, from which they depend. From the above discussion, the slave test unit of Lam, the VRU 180, in conjunction with the Garland reference, does not possess several of the limitations of claims 1 and 11, such as the ability to generate test signals onto multiple separate phone lines. As a result, Lam and Garland do not anticipate nor make obvious the slave test unit of claims 6 and 16.

With respect to claims 7 and 17, the examiner identifies the remote test unit as the master processor 110 and the “other” slave test unit as the VRU 180. However, both claims 7 and 17 indicate that the remote test unit of claims 1 and 11 is *another* slave test unit. In other words, the remote test unit and the “other” slave test unit are the same unit, and not two distinct units. In Lam, the remote test unit is the master processor 110, which serves as a master test unit, not a slave. Garland does not ever indicate that a slave test unit (the loop-back devices 46) ever communicate in any fashion with each other. As a result, the applicant believes claims 7 and 17 are not anticipated by Lam, Garland, or any combination thereof, and are allowable.

Regarding claims 8 and 18, Lam discloses the dialing of a destination telephone number using DTMF (3:53 – 3:58). However, Lam does not disclose the use of DTMF for the transmission of test commands received by the slave test unit, as cited in claims 8 and 18. Hence, Lam does not disclose the subject matter of those claims. As Garland does not mention transmission of test commands via DTMF either, the applicant believes claims 8 and 18 are allowable under Lam in view of Garland.

Concerning claim 15, as discussed above regarding claim 2, Lam does not allow the passing of commands from master unit to slave unit via a second slave unit. As discussed earlier, communication of any kind between two slaves is not contemplated in the Lam reference. This functionality is the subject matter of claim 15, and is utilized to allow tests to be executed by a slave not directly connected with the master test unit (12:10 – 12:12). Likewise, Garland makes no reference to such a capability. Thus, claim 15 again is not anticipated nor made obvious by Lam or Garland.

Regarding claims 9 and 10, the terms 'E&M' and 'FXO/FXS' refer to specific types of standardized communication ports utilized in telephone equipment. Each of these standards represents different signaling specifications, connectors, connector pinouts, and the like. Such ports are commonly found on PBX systems in offices and other establishments, both domestically and abroad. As a result, general references in Lam to "lines of other carriers" (1:21) or lines that may be tested "simply by conducting a conversation with a subscriber" (4:9 – 4:10) do not in any way deal with the specific ports mentioned in claims 9 and 10. Thus, the applicant believes those claims are allowable.

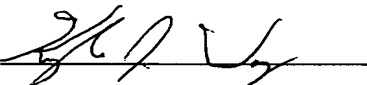
As a result, Lam and Garland do not anticipate nor make obvious the present invention, which involves a slave test device and method which allow testing of a phone line to be performed by the slave test device at the direction of a master test device, thus allowing the slave to perform tests remotely, in the absence of a local human operator (3:20 – 3:27).

The examiner has also made of record U.S. Patent Number 5,539,321 ("Sciacero"), U.S. Patent Number 5,875,398 ("Snapp") and U.S. Patent Number 6,154,523 ("Hofmann"). However, all three appear to be less applicable to the present application than Lam and Garland. As such, the applicant believes the claims of the present application are allowable in light of those references as well.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

As a result of the discussion above, it is believed that claims 1-18 comply with the provisions of 35 USC 102 and 103. Reconsideration and favorable action are respectfully requested.

Respectfully submitted,

by 

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

No amendments to the specification were requested herein.

In the claims:

Claim 1 has been amended as follows:

1. (Three times amended) A slave test unit for testing voice signal quality over phone connections, comprising:

at least two phone line connectors attached to separate phone lines;

means for transmitting and receiving electrical signals via the phone line connectors, the electrical signals being transmitted and received between the slave test unit and at least one remote test unit, the electrical signals received from the [at least one] remote test unit comprising test commands;

means for decoding the test commands from the electrical signals received from the [at least one] remote test unit, and;

means for executing the test commands, the executing means including the ability to generate test signals on any of the separate phone lines, the test commands being received exclusively from the remote test unit[;]

[whereby the test commands executed by the slave test unit are received exclusively from the at least one remote test unit].

Claim 2 has been amended as follows:

2. (Amended) The slave test unit of claim 1, further comprising means for encoding the test commands into the electrical signals sent via the phone line connectors to the [at least one] remote test unit.

Claim 11 has been amended as follows:

11. (Three times amended) A method for testing voice signal quality over phone connections, comprising the steps of:

establishing at least [one] two phone [connection] connections, whereby [each of] the [at least one] phone connections [is] are made with [a separate] at least one remote test unit;

receiving electrical signals, the electrical signals being received from the remote test [units] unit [associated with the at least one phone connections], the electrical signals comprising test commands;

decoding the test commands from the electrical signals being received from the remote test [units] unit; and

executing the test commands, the executing step including the ability to generate test signals on any of the [at least one] phone connections, the test commands being received exclusively from the remote test [units] unit.

Claim 15 has been amended as follows:

15. (Amended) The method of claim 11, wherein one of the test commands executed in the executing step is an encoding and transmission of the test commands via [the] at least one of the phone [connection] connections.